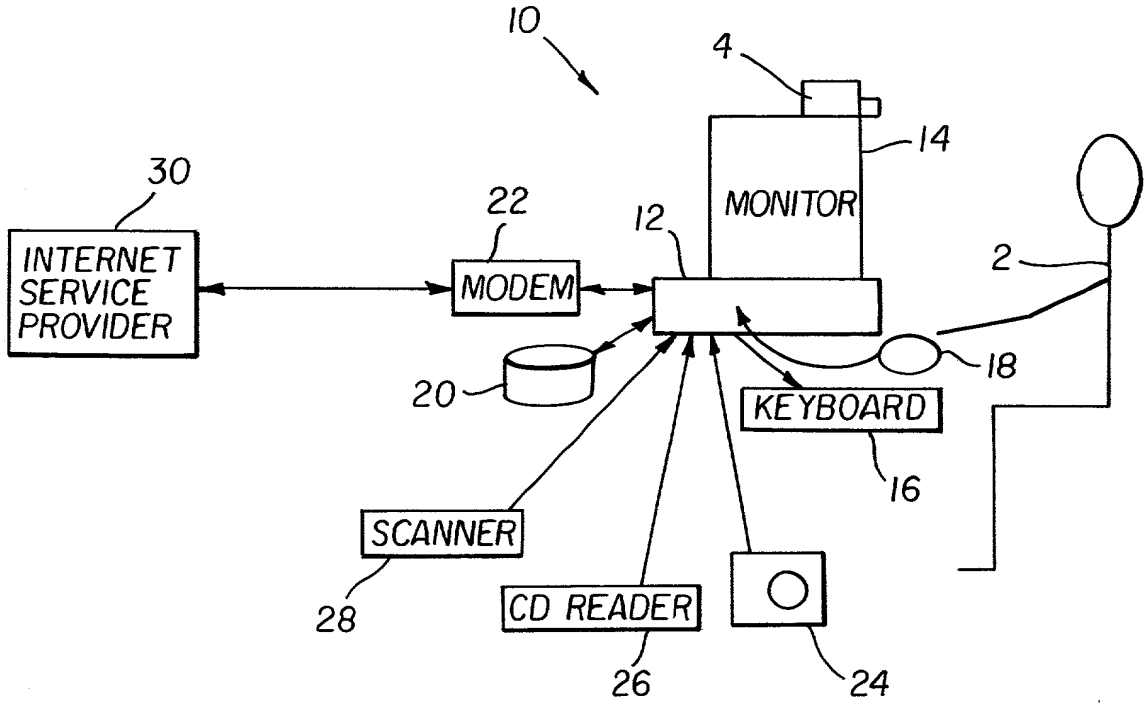
10
4
14
MONITOR
30
INTERNET SERVICE PROVIDER
22
MODEM
12
2
18
20
KEYBOARD
16
SCANNER
28
CD READER
26
24

FIG. 1

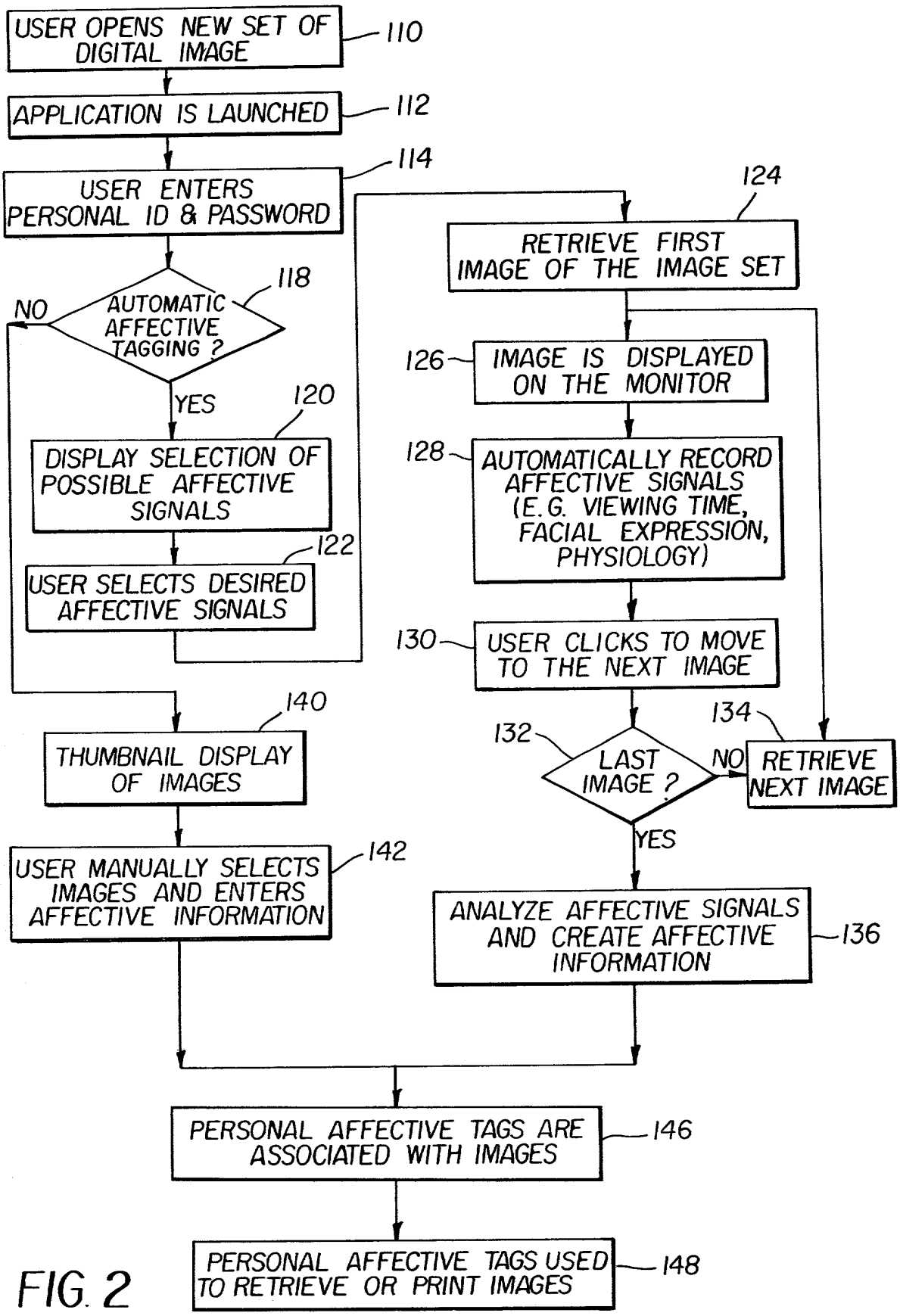
USER OPENS NEW SET OF DIGITAL IMAGE
110
APPLICATION IS LAUNCHED
112
USER ENTERS PERSONAL ID & PASSWORD
114
AUTOMATIC AFFECTIVE TAGGING ?
118
NO
YES
DISPLAY SELECTION OF POSSIBLE AFFECTIVE SIGNALS
120
USER SELECTS DESIRED AFFECTIVE SIGNALS
122
THUMBNAIL DISPLAY OF IMAGES
140
USER MANUALLY SELECTS IMAGES AND ENTERS AFFECTIVE INFORMATION
142
RETRIEVE FIRST IMAGE OF THE IMAGE SET
124
IMAGE IS DISPLAYED ON THE MONITOR
126
AUTOMATICALLY RECORD AFFECTIVE SIGNALS (E.G. VIEWING TIME, FACIAL EXPRESSION, PHYSIOLOGY)
128
USER CLICKS TO MOVE TO THE NEXT IMAGE
130
LAST IMAGE ?
132
NO
RETRIEVE NEXT IMAGE
134
YES
ANALYZE AFFECTIVE SIGNALS AND CREATE AFFECTIVE INFORMATION
136
PERSONAL AFFECTIVE TAGS ARE ASSOCIATED WITH IMAGES
146
PERSONAL AFFECTIVE TAGS USED TO RETRIEVE OR PRINT IMAGES
148

FIG. 2

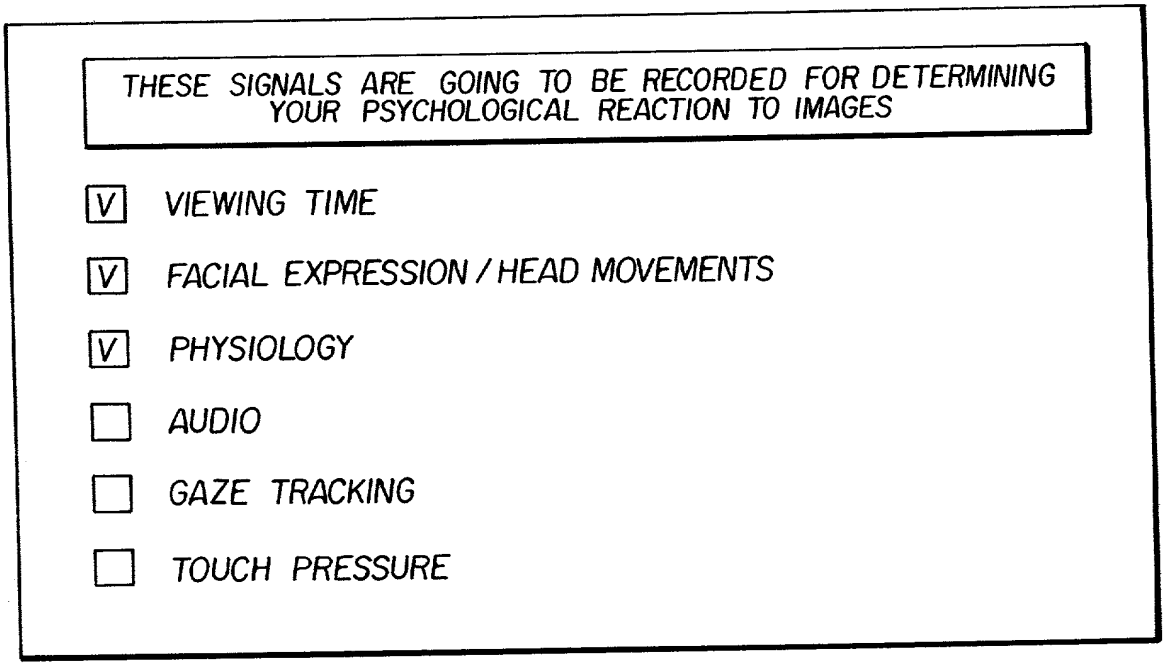
THESE SIGNALS ARE GOING TO BE RECORDED FOR DETERMINING YOUR PSYCHOLOGICAL REACTION TO IMAGES
V VIEWING TIME
V FACIAL EXPRESSION / HEAD MOVEMENTS
V PHYSIOLOGY
AUDIO
GAZE TRACKING
TOUCH PRESSURE

FIG. 3A

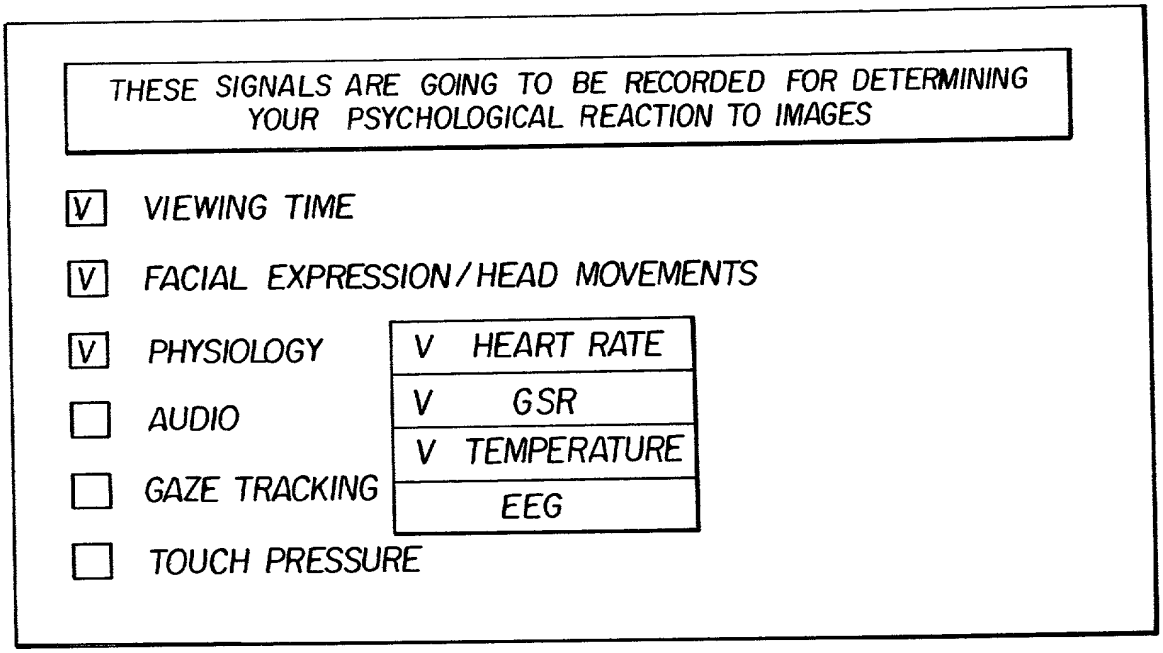
THESE SIGNALS ARE GOING TO BE RECORDED FOR DETERMINING YOUR PSYCHOLOGICAL REACTION TO IMAGES
V VIEWING TIME
V FACIAL EXPRESSION / HEAD MOVEMENTS
V PHYSIOLOGY
AUDIO
GAZE TRACKING
TOUCH PRESSURE
V HEART RATE
V GSR
V TEMPERATURE
EEG

FIG. 3B

Personal Affective Tag field - PAT
Personal Identification field – PID_1
Affective Record Start field – BEGIN_RECORD_1
Date field – DATE
Location field – LOCATION
Affect field – AFFECT
Viewing time field – VIEWING_TIME
Physiology GSR field – GSR_SIGNAL
Physiology Temperature field – TEMP_SIGNAL
Ambient Temperature – AMBIENT_TEMP_SIGNAL
Physiology Heart Rate field – HR_SIGNAL
Face Expression field – FACE_EXPRESSION_DATA
Affective Record Start field – BEGIN_RECORD_2
Date field - DATE
Location field – LOCATION
Affect field – AFFECT
Viewing time field – VIEWING_TIME
Physiology GSR field – GSR_SIGNAL
Physiology Temperature field – TEMP_SIGNAL
Physiology Heart Rate field – HR_SIGNAL
Physiology EEG field – EEG_SIGNAL
Face Expression field – FACE_EXPRESSION_DATA
Gaze tracking field – GAZE_TRACKING_DATA
Behavior Record Start field – BEGIN_RECORD_3
Number of times viewed field – VIEWING_COUNTER
Number of times printed field – PRINTING_COUNTER
Number of times sent in e-mail field – E_MAIL_COUNTER

FIG. 4A

Personal Affective Tag 1
Personal Identification = User 1
Date = Aug 1, 2000
Importance = 8.....
Personal Affective Tag 2
Personal Identification = User 2
Date = July 4, 2001
Importance = 4.....
Personal Affective Tag 3
Personal Identification = User 1
Date = Oct 8, 2001
Importance = -5.....

FIG. 4B

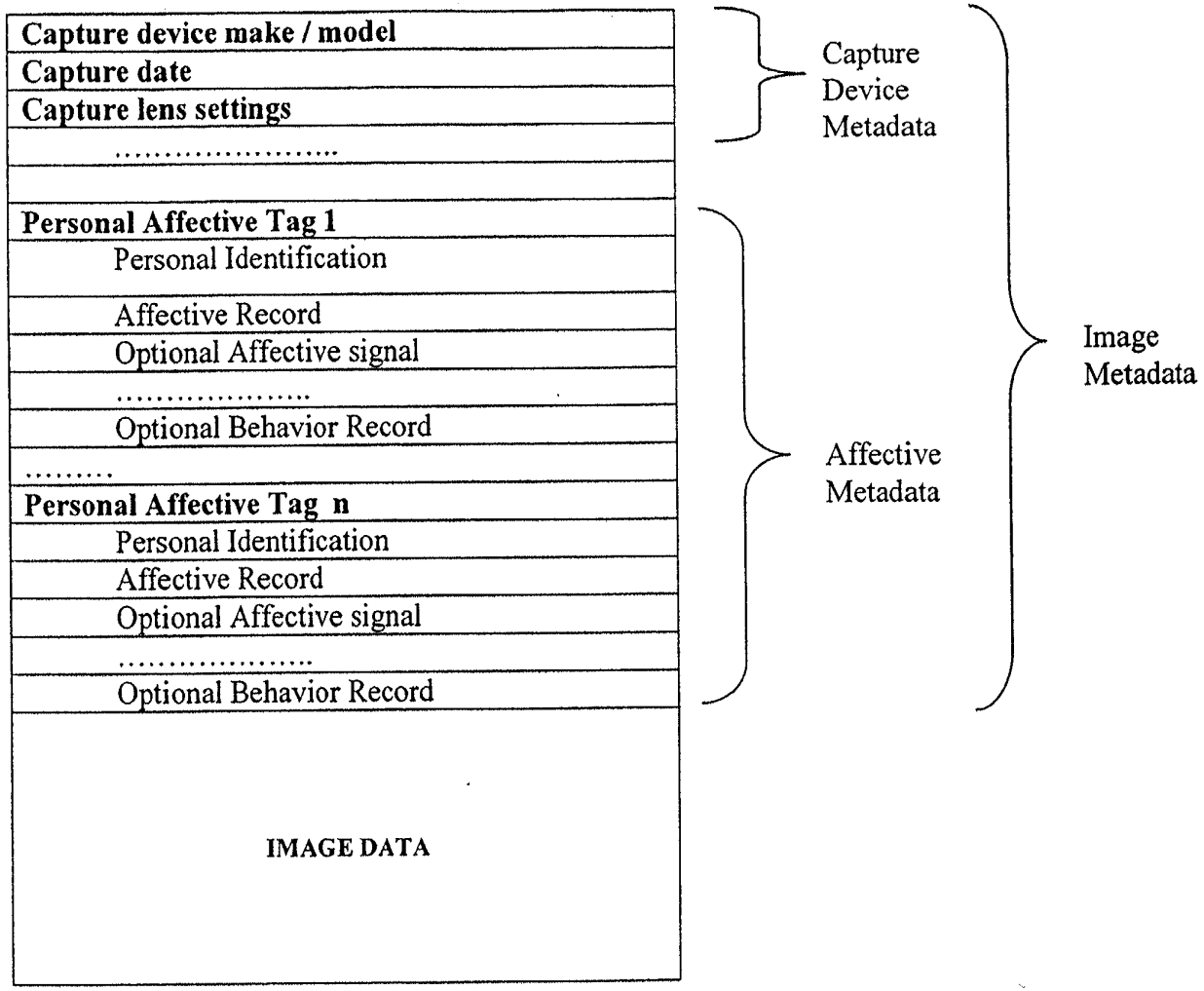
Capture device make / model
Capture date
Capture lens settings
.....
Personal Affective Tag 1
Personal Identification
Affective Record
Optional Affective signal
.....
Optional Behavior Record
.....
Personal Affective Tag n
Personal Identification
Affective Record
Optional Affective signal
.....
Optional Behavior Record
IMAGE DATA
Capture Device Metadata
Affective Metadata
Image Metadata

FIG. 4C

Search Report

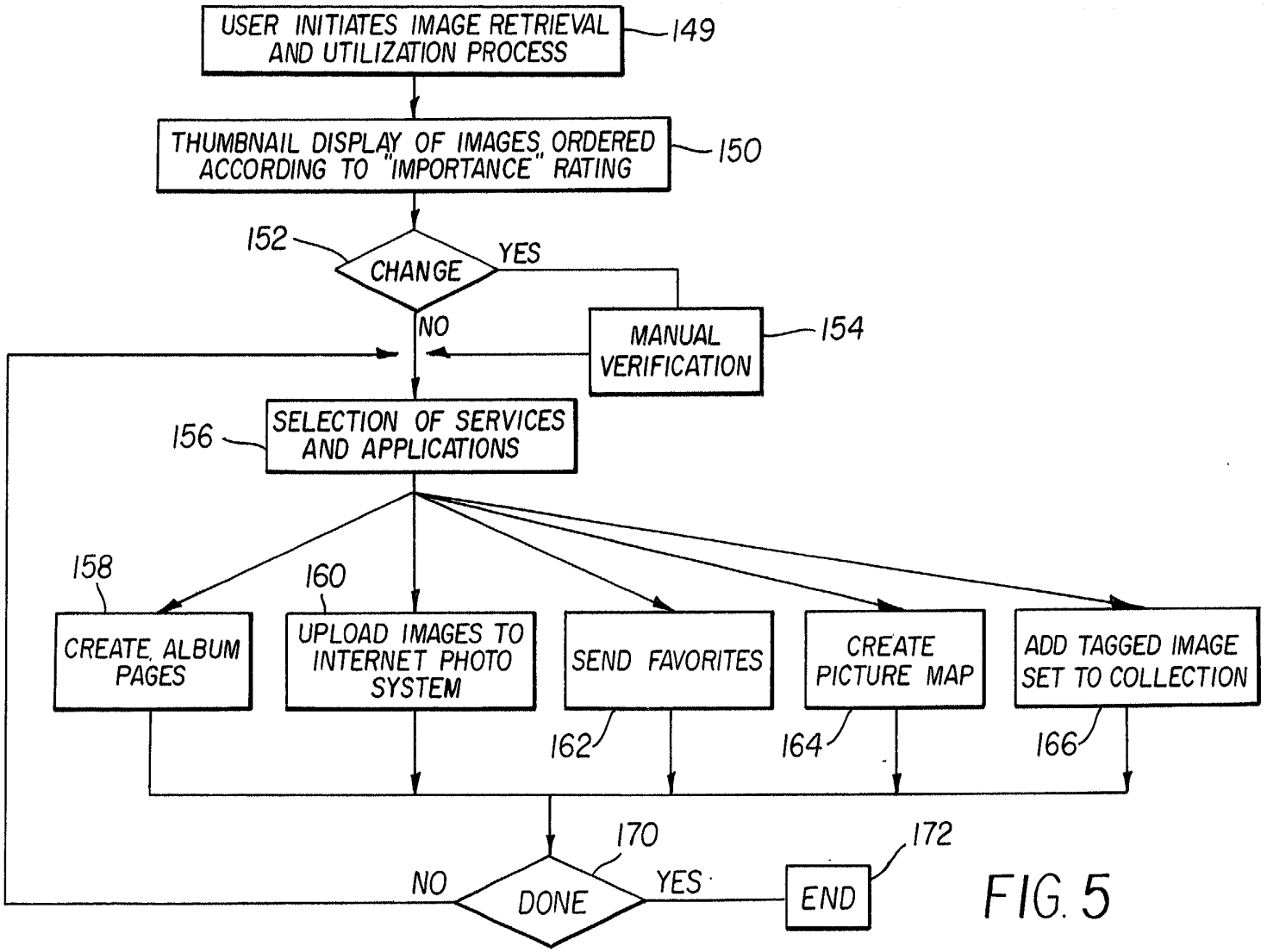

FIG. 5

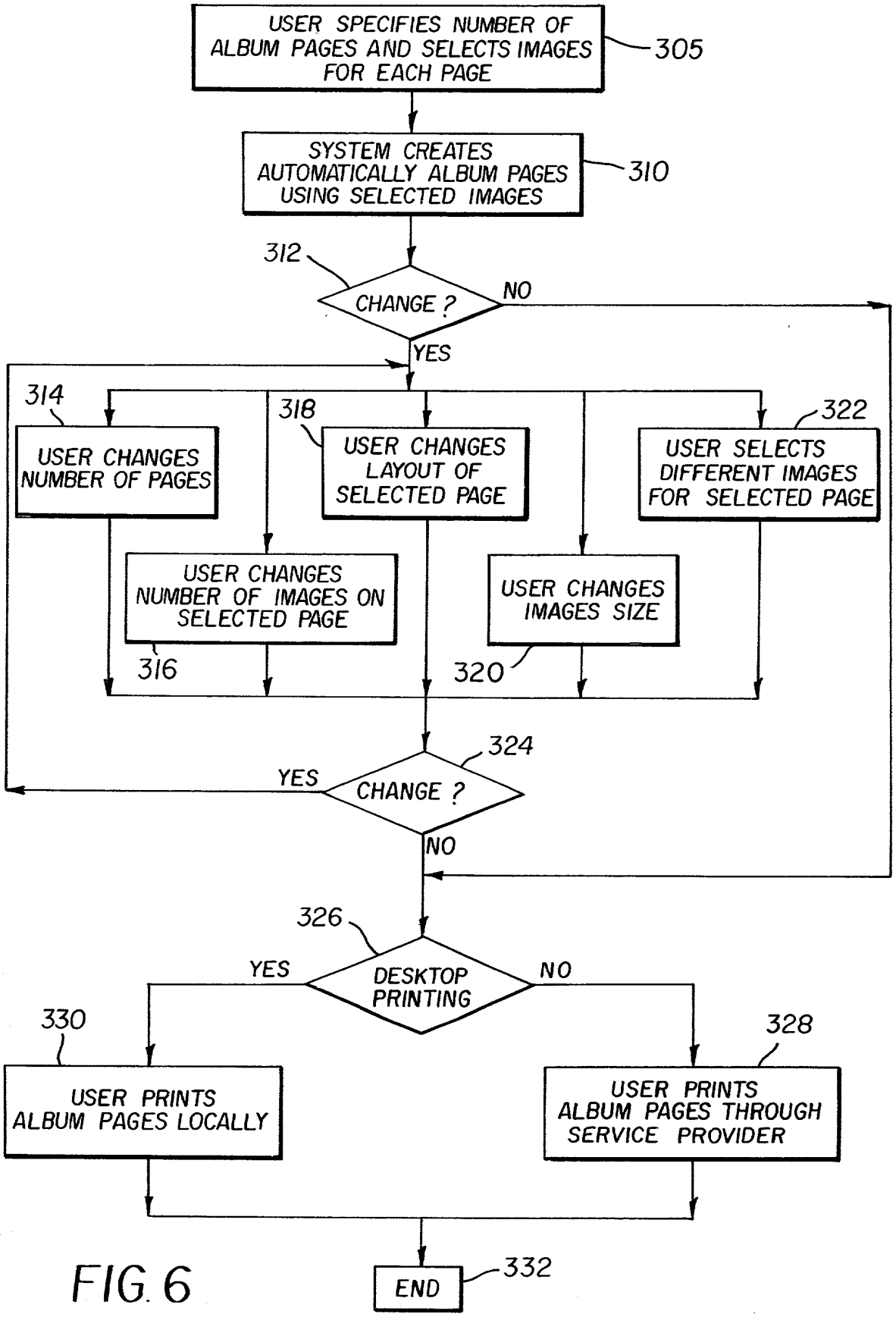
USER SPECIFIES NUMBER OF ALBUM PAGES AND SELECTS IMAGES FOR EACH PAGE
305
SYSTEM CREATES AUTOMATICALLY ALBUM PAGES USING SELECTED IMAGES
310
312
CHANGE ?
NO
YES
314
USER CHANGES NUMBER OF PAGES
318
USER CHANGES LAYOUT OF SELECTED PAGE
322
USER SELECTS DIFFERENT IMAGES FOR SELECTED PAGE
USER CHANGES NUMBER OF IMAGES ON SELECTED PAGE
316
USER CHANGES IMAGES SIZE
320
324
YES
CHANGE ?
NO
326
YES
DESKTOP PRINTING
NO
330
USER PRINTS ALBUM PAGES LOCALLY
328
USER PRINTS ALBUM PAGES THROUGH SERVICE PROVIDER
END
332

FIG. 6

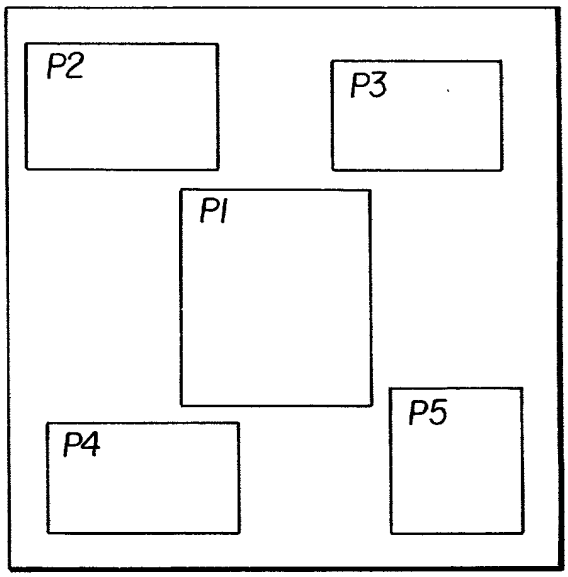
P2
P3
P1
P5
P4

FIG. 7A

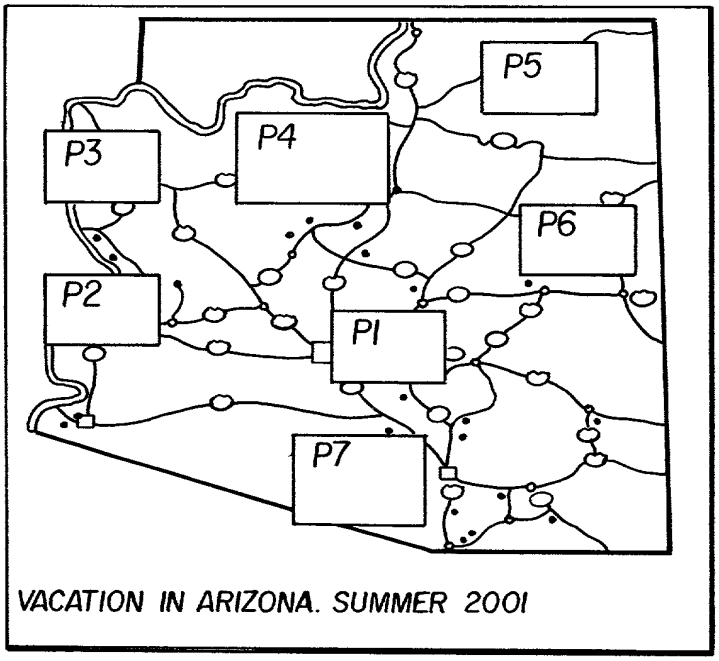
P5
P4
P3
P6
P2
P1
P7
VACATION IN ARIZONA. SUMMER 2001

FIG. 7B

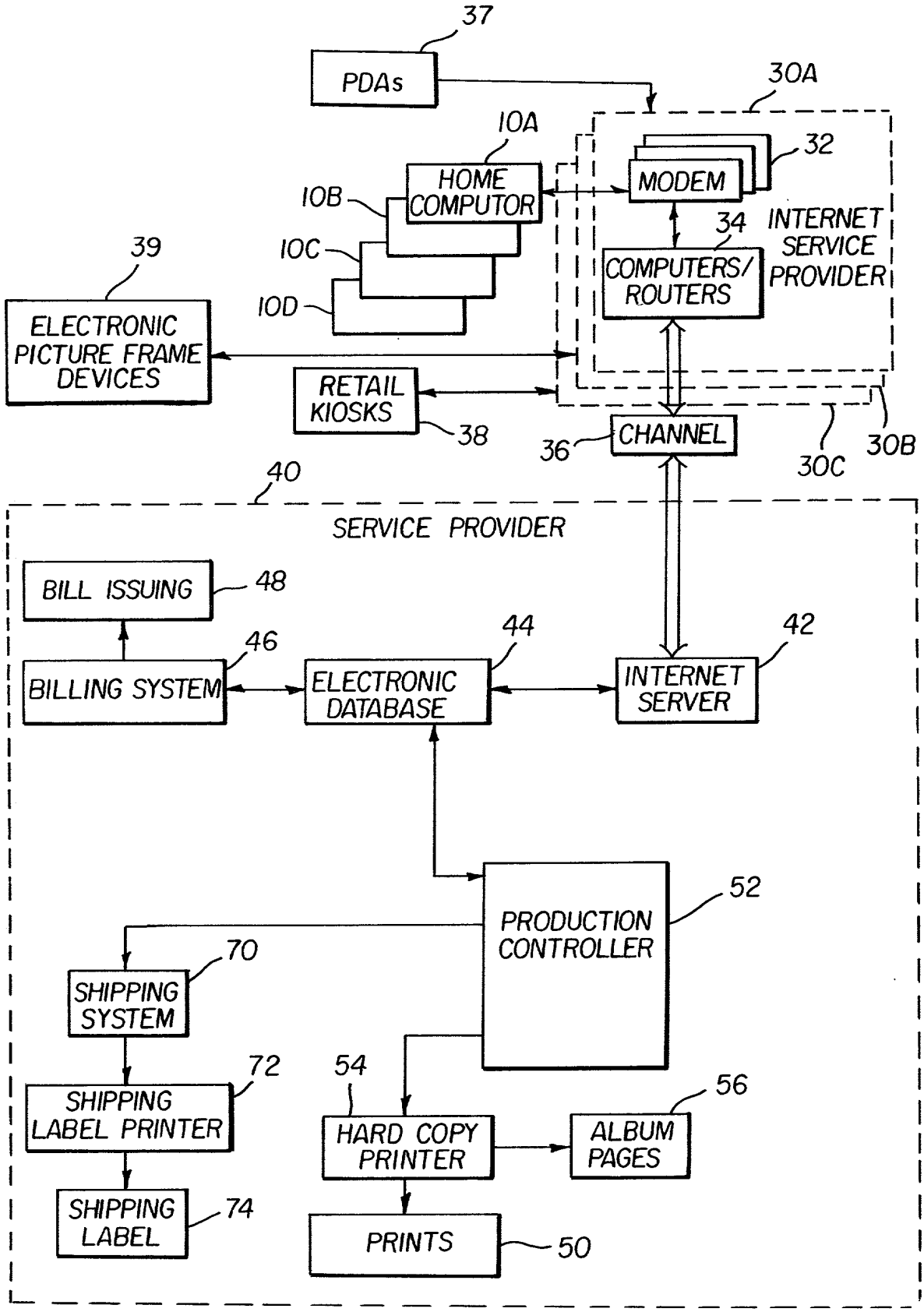
37
PDAs
30A
10A
HOME COMPUTOR
32
MODEM
10B
10C
10D
34
INTERNET SERVICE PROVIDER
COMPUTERS/ ROUTERS
39
ELECTRONIC PICTURE FRAME DEVICES
RETAIL KIOSKS
38
36
CHANNEL
30C
30B
40
SERVICE PROVIDER
BILL ISSUING
48
46
44
42
BILLING SYSTEM
ELECTRONIC DATABASE
INTERNET SERVER
52
PRODUCTION CONTROLLER
70
SHIPPING SYSTEM
72
54
56
SHIPPING LABEL PRINTER
HARD COPY PRINTER
ALBUM PAGES
SHIPPING LABEL
74
PRINTS
50

FIG. 8

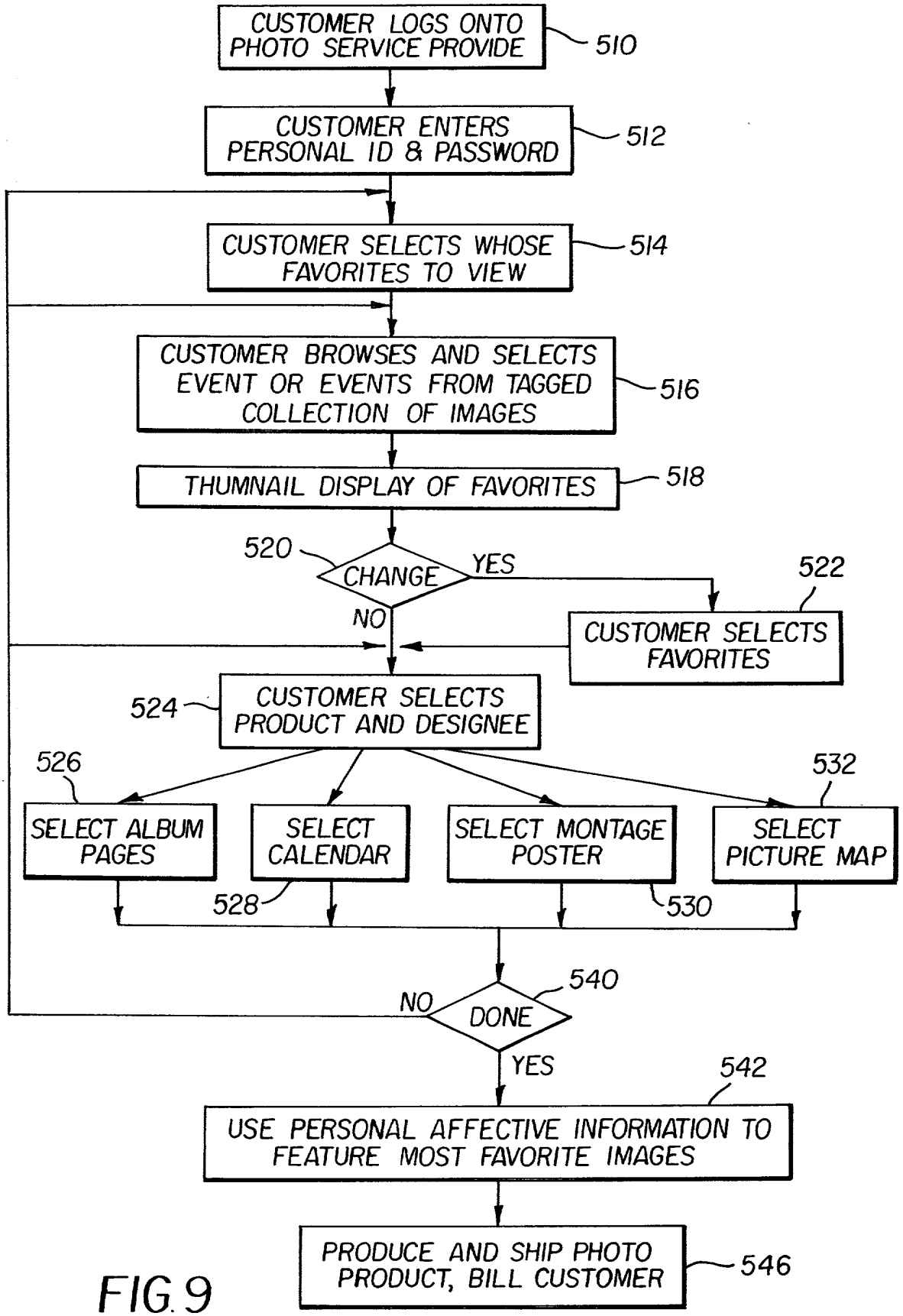
CUSTOMER LOGS ONTO PHOTO SERVICE PROVIDE
510
CUSTOMER ENTERS PERSONAL ID & PASSWORD
512
CUSTOMER SELECTS WHOSE FAVORITES TO VIEW
514
CUSTOMER BROWSES AND SELECTS EVENT OR EVENTS FROM TAGGED COLLECTION OF IMAGES
516
THUMNAIL DISPLAY OF FAVORITES
518
520
CHANGE
YES
NO
522
CUSTOMER SELECTS FAVORITES
524
CUSTOMER SELECTS PRODUCT AND DESIGNEE
526
SELECT ALBUM PAGES
SELECT CALENDAR
528
SELECT MONTAGE POSTER
530
532
SELECT PICTURE MAP
540
NO
DONE
YES
542
USE PERSONAL AFFECTIVE INFORMATION TO FEATURE MOST FAVORITE IMAGES
PRODUCE AND SHIP PHOTO PRODUCT, BILL CUSTOMER
546

FIG. 9